

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of) Atty. Docket No.: ASAMU0005
Jinko KIMURA et al.) Confirmation No.: 8406
Serial No. 09/508,771)
Filed: March 16, 2000) Group Art Unit: 1752
For: PHOTSENSITIVE FILM) Examiner: Amanda C. WALKE
)
)
) Date: October 9, 2007

REPLY BRIEF

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Sir:

Applicant respectfully submits this Reply Brief under 37 C.F.R. §41.41 with respect to the above captioned application. The present Reply Brief addresses and responds to the Examiner's Answer, mailed August 9, 2007 in response to Applicant's Revised Appeal Brief filed May 4, 2007.

Applicants' Rebuttal Arguments

The independent claims are claims 1, 19, 36, 38, 42, 43, 44, 45 and 46. Applicants have argued the patentability of the independent claims and the subject matter of dependent claims 12 and 27 as separate issues (Revised Appeal Brief at 9, lines 1-10; at 24, line 11, to at 26, line 9; and at 26, line 10, to at 30, line 12).

1. **The Combination of References Fails to Disclose or Suggest the Claimed**

“Fish Eyes” Population: Applicants argued the prior art does not teach, or even suggest, “a protecting film...wherein...the number of fish eyes having a diameter of at least 80 μm ...does not exceed 5 fish eyes/ m^2 when measured under a microscope at a multiplication of 100” as recited in independent claims 1, 36, 38, 42 and 44-46 and “a protecting film...wherein the protecting film has fish eyes of a diameter of at least 80 μm in a number not exceeding 5 per square meter when measured under a microscope at a multiplication of 100” as recited by independent claims 19 and 43. (Revised Appeal Brief at 9, line 1, to at 20, line 15; and at 26, line 10, to at 28, line 11). The Examiner admits that the Taguchi Patent (U.S. Patent 4,360,582) is silent regarding “fish eyes” although the Examiner contends the Taguchi Patent does disclose at least the use of a polypropylene film (Examiner’s Answer at 4, lines 6-7). The Examiner argues that the Mannion Patent (U.S. Patent 5,198,446) discloses the use of clarifying agent blended to polyolefin resin to reduce the haze in articles manufactured from crystalline polyolefin resins, such as polypropylene (Examiner’s Answer at 4, lines 8-13). The Examiner contends it is a fact that the Mannion Patent discloses the use of a clarifying agent in manufacturing articles made of crystalline polyolefin resins, such as a polypropylene film, so that “fish eye” bubbles are eliminated (i.e., reduced to “zero” at any scale), (Examiner’s Answer at 4, line 14, to at 6, line 10). The Examiner’s argument fails for multiple reasons as follows.

a. **Evaluation of “Fish Eyes” Defects and Scale**

The Examiner’s argument fails as a matter of fact because the Mannion Patent does not teach, or suggest, the elimination of “fish eyes” at any scale, much less all scales, as the Examiner contends. The Examiner blatantly ignores that the Mannion Patent discloses examining solely injection molded resin plaques for defects by visual examination only (Revised Appeal Brief at 15, lines 16, lines 3-19; and Mannion Patent at col. 9, lines 15-20). Despite this limited degree of testing disclosed by the Mannion Patent, the Examiner contends that the Mannion Patent actually teaches the absolute elimination of “fish eye” defects at any scale, including those defects detectable only at magnification levels of up to “a multiplication of 100” when measured under a microscope (Examiner’s Answer at 6, lines 8-10).

Applicants’ argued that the Examiner must give a fair reading to what the Mannion Patent teaches as a whole. In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). (Revised Appeal Brief at 23, lines 1-16). Furthermore, what a reference teaches is a matter of fact. In re Rijckaert, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993), and Applicants have presented evidence from the Mannion Patent itself, and submitted expert testimony, to establish that it is a fact the Mannion Patent does not teach, or suggest, the elimination of defects smaller than the resolution limit of the naked human eye (Revised Appeal Brief at 16, lines 3-17; and Second Ishikawa Declaration, ¶¶ 14, 17, 20 and 21). Thus, while the present invention pertains to the reduction of defects extending into the microscopic scale, the Mannion Patent is limited to a method for eliminating defects detectable on the visible scale.

The Examiner even concedes that the Mannion Patent “does not address the size” of “fish eyes” defects and then, without any factual support, concludes that ‘the use of the phrase *eliminating* “fish eyes” is taken to mean just that,’ the absolute elimination of “fish eyes” at all scales including at the microscopic scale (Examiner’s Answer at 8, line 18, to at 9, line 4, emphasis in the original). The Examiner has presented only opinion, and no facts, in support of the erroneous contention that the Mannion Patent teaches the absolute elimination of “fish eye” defects at all scales, including at the microscopic level. Applicants, on the other hand, have adduced evidence discussed above to show that the Mannion Patent does not teach the absolute elimination of “fish eye” defects at all scales, and, in particular, does not teach the elimination of “fish eyes” defects such as those in the range of 80 to 89 μ m, which are detectable only at a microscopic scale “measured under a microscope at a multiplication of 100” (Revised Appeal Brief at 16, lines 3-17; see also Amendment (G), Appendix at 31; Second Ishikawa Declaration ¶ 17; and NDT Resource Center webpage, of record).

b. Bubble Defects: “White Points” are not “Fish Eyes”

The Examiner’s argument additionally fails as a matter of fact because the Examiner has failed to appreciate that while the Mannion Patent discloses several different kinds of bubble defects, including “white point” defects and “fish eyes” defects, the Mannion Patent discloses only a method for eliminating “white point” defects. Specifically, the Examiner contends that the Mannion Patent ‘clearly teaches in col. 2, lines 36-47, that one focus of the invention is to use the compounds to “*eliminate bubbles or “fish eyes,”*’ (Examiner Answer at 8, line 21, to at 9, line 2, emphasis in the original). Applicants argued that while the Mannion Patent discloses different kinds of bubble defects, including “white point” defects

and “fish eyes” defects in the Background of the Invention, the Mannion Patent discloses only a method for eliminating “white point” defects in the Description of the Invention (Revised Appeal Brief at 13, line 8, to at 16, line 2). Applicants argued that it is a fact the Mannion Patent defines “white point” bubbles, which are small bubbles in the sidewalls of injection molded resins, and distinguishes them from “fish eyes,” which result from compounding during melting (Revised Appeal Brief at 13, line 8, to at 14, line 2). Applicants further argued that “fish eyes” as used in the Mannion Patent is in accordance with the use of the term in the specification of the above-captioned application (Revised Appeal Brief at 14, lines 3-11).

The Examiner blatantly ignores the following Mannion Patent statement, at col. 5, lines 3-5, of the Description of the Invention, which is that

‘[i]nvestigations into the original (sic) of the aforementioned “white point” or bubble problem led to the following experiments.’

A person of ordinary skill in the art would immediately understand this statement, made before discussion of specific embodiments disclosed by the Mannion Patent, establishes that Mannion’s invention is directed solely to the elimination of “white point” defects and not to the elimination of “fish eyes” defects.

For all of the above reasons, the Mannion Patent is limited to disclosure of a method for eliminating large, visible “white point” defects and does not teach, or suggest, a method for reducing visible and microscopic “fish eyes” defects.

c. **The Kobayashi Patent**

To the extent that the Examiner relies upon col. 2, lines 36-47, of the Mannion Patent to establish a method for the “elimination” of “fish eye” bubbles (Examiner’s Answer at 8, line 8, to at 9, line 4), Applicants object on multiple grounds. First, Applicants point out that this passage relates to Mannion’s inaccurate hearsay characterization of the disclosure of U.S. Patent 4,954,291 to Kobayashi et al. (hereafter, the “Kobayashi Patent,” of record).

Applicants contend that it is improper for the Examiner to rely upon Mannion’s inaccurate hearsay characterization of Kobayashi to establish the scope and content of subject matter disclosed by the Kobayashi Patent. The Kobayashi Patent is of record in this case (See Information Disclosure Statement, filed December 27, 2005) so there is no need for the Examiner to rely on the Mannion Patent to establish subject matter disclosed by the Kobayashi Patent.

Second, the Examiner did not clearly indicate in the Final Office Action mailed March 13, 2006 that the Examiner is relying on col. 2, lines 36-47, of the Mannion Patent, which is the only portion of the Mannion Patent that addresses “fish eyes.” The remainder of the Mannion Patent, and in particular the invention disclosed by the Mannion Patent, pertains to the elimination of visible “white points” and not to the elimination of either visible or microscopic “fish eyes.” Thus, the Examiner has grossly mischaracterized the disclosure of the Mannion Patent.

Third, the Kobayashi Patent discloses a method for molding a resin at low temperatures so that “fish eye” formation due to “incomplete melting” is precluded (Kobayashi Patent, col. 4, lines 3-7). The Kobayashi Patent is silent regarding “fish eyes” formed by “thermally deteriorated regions,” (See, e.g., Applicants’ Original Specification, at 3, lines 8-10). Therefore, the Kobayashi Patent does not address the same kinds of “fish eyes” population as is addressed by Applicants’ invention. In other words, the Kobayashi Patent does not teach, or suggest, eliminating the number of “fish eyes” defects due to both “incomplete melting” and “thermally deteriorated regions” because the Kobayashi Patent does not disclose a method for eliminating, or even reducing, the number of “fish eyes” defects caused by thermally deteriorated regions.

Furthermore, while the Kobayashi Patent discloses in Table 3 that no “fish eyes” were detected for Examples 7 to 12, the Kobayashi Patent is completely silent with respect to how the “fish eyes” population was measured. The Kobayashi Patent does not even provide a unit of measurement with respect to the number of “fish eyes” present in the comparative examples. A person of ordinary skill in the art would have no way of determining the nature of the population of “fish eyes” disclosed by the Kobayashi Patent, such as defect size and density. Certainly, the Kobayashi Patent does not teach, or even suggest, whether “fish eyes” defects have been reduced or eliminated on a microscopic scale. Consequently, the Kobayashi Patent does not teach, or even suggest, “a protecting film...wherein...the number of fish eyes having a diameter of at least 80 μm ...does not exceed 5 fish eyes/ m^2 when measured under a microscope at a multiplication of 100” as recited in independent claims 1, 36, 38 and 44-46 and “a protecting film...wherein the protecting film has fish eyes of a diameter of at least 80 μm in a number not exceeding 5 per square meter when measured under a microscope at a multiplication of 100” as recited by independent claim 19.

In sum, the Examiner's contention regarding the teachings of the Mannion Patent, and the teachings of the Kobayashi Patent as characterized by the Mannion Patent, is facially flawed because the Mannion Patent discloses a method for reducing the number of visible "white point" defects and does not disclose a method for reducing the number of visible and microscopic "fish eye" defects, and the Kobayashi Patent discloses a method for reducing the number of "fish eyes" defects that are substantially different "fish eye" defects from those addressed by the presently claimed invention. Furthermore, the Kobayashi Patent does not teach, or suggest, the elimination or reduction of microscopic "fish eyes" defects.

In view of the above, Applicants have factually established that neither the Taguchi Patent nor the Mannion Patent nor the Kobayashi Patent teach, or suggest, "a protecting film...wherein...the number of fish eyes having a diameter of at least 80 μm ...does not exceed 5 fish eyes/ m^2 when measured under a microscope at a multiplication of 100" in accordance with independent claims 1, 36, 38 and 44-46 and "a protecting film...wherein the protecting film has fish eyes of a diameter of at least 80 μm in a number not exceeding 5 per square meter when measured under a microscope at a multiplication of 100" in accordance with independent claims 19 and 43 of the above-captioned application.

2. The Examiner Erred in Failing to Give Patentable Weight to the Limitation Wherein the "Fish Eyes" Population is "Measured under a Microscope at a Multiplication of 100:" Applicants argued the prior art does not teach, or even suggest, "a protecting film...wherein...the number of fish eyes having a diameter of at least 80 μm ...does not exceed 5 fish eyes/ m^2 when measured under a microscope at a multiplication of 100" as recited in independent claims 1, 36, 38, 42 and 44-46 and "a protecting film...wherein the protecting film has fish eyes of a diameter of at least 80 μm in a number

not exceeding 5 per square meter when measured under a microscope at a multiplication of 100” as recited by independent claims 19 and 43. (Revised Appeal Brief at 9, line 1, to at 20, line 15; and at 26, line 10, to at 27, line 2). The Examiner contends that the limitation pertaining to the unit of measurement “5 per square meter when measured under a microscope at a multiplication of 100” carries no patentable weight with respect to the manner of measurement because the area of the film would possess the same number of “fish eyes” regardless of the method of evaluation (Examiner’s Answer at 7, line 21, to at 8, line 2).

The Examiner’s argument fails because the “fish eye” population, as recognized by the Examiner (Examiner’s Answer at 6, lines 8-10), is a limitation of the claimed invention, and the method of measurement defines the relevant visible and microscopic “fish eye” population. Specifically, the Examiner contends that the Mannion Patent discloses a resin article having a “fish eye” population of zero (Examiner’s Answer at 6, lines 8-10), which for all of the above reasons Applicants have shown is an erroneous contention because the Mannion Patent discloses a method for reducing visible “white points” and not visible and microscopic “fish eyes.” Assuming, *arguendo*, that the Mannion Patent disclosed a method for reducing “fish eyes” (which is an invalid assumption), the “fish eye” population so reduced would be limited to those visible to the naked eye as argued by Applicants (Revised Appeal Brief at 22, lines 14-23). In other words, there is no teaching in the Mannion Patent that would lead a person of ordinary skill in the art to conclude that Mannion’s invention reduces or eliminates microscopic defects!

Applicants' claimed invention recites a diameter range for the "fish eyes" population that must be "at least 80 μm ." In other words, the present invention pertains to the elimination or reduction of "fish eyes" defects that are substantially 80 μm or larger in diameter, which includes "fish eyes" defects that are microscopic and those that are visible with the naked eye.

As argued by Applicants, "fish eyes" near 80 μm are invisible to the naked eye so that a microscope must be used to properly characterize the "fish eye" population as recited by the claims. Only defects having a diameter of 89 μm or larger are visible to the naked eye (Revised Appeal Brief at 16, lines 3-17; see also Amendment (G), Appendix at 31; Second Ishikawa Declaration ¶ 17; and NDT Resource Center webpage, of record). Thus, Applicant's invention pertains to the elimination or reduction of both microscopic and visible "fish eyes" defects whereas the Mannion Patent is limited to eliminating only visible "white point" defects. The ability of Applicants' claimed invention to reduce the number of both microscopic and visible "fish eyes" defects is another distinguishing element of Applicants' invention that distinguishes the present invention from Mannion's method for eliminating a population of larger visible defects (i.e., "white points" having a diameter of at least 89 μm), (Revised Appeal Brief at 16, lines 14-17; and at 21, line 16, to at 22, line 4; Second Ishikawa Declaration ¶ 17; and NDT Resource Center webpage, of record).

For all of the above reasons, the Examiner erred by not giving patentable weight to the limitation "when measured under a microscope at a multiplication of 100" recited by independent claims 1, 19, 36, 38, 42 and 43 and 44-46 because this limitation establishes that Applicants' invention reduces "fish eyes" defects that extend into the microscopic range.

3. **The Combination of References Fails to Disclose or Suggest the Claimed**

“Resin Filtered After Thermal Melting”: Applicants argued the prior art does not teach, or even suggest, “the protecting film... is made of resin filtered after thermal melting” as recited by independent claims 44-46. (Revised Appeal Brief at 28, line 12, to at 30, line 12). The Examiner argues that the limitation “resin filtered after thermal melting” is a process-by-product limitation because these claims are directed to a “photosensitive film” and not a method of making a photosensitive film (Examiner’s Answer at 9, lines 18-21). Thus, the Examiner contends that all the reference has to do is teach a layer made of a resin (Examiner’s Answer at 6, lines 16-18).

The Examiner’s argument fails because the limitation “resin filtered after thermal melting,” when read in context, describes the product more by its structure than by the process used to obtain it, so this limitation is best characterized as a pure product limitation meriting full consideration when patentability is determined. Hanzi v. International Trade Commission, 44 U.S.P.Q.2d 1358, 1363 (Fed. Cir. 1997). Applicants argued that the limitation “resin filtered after thermal melting” as described at 13, line 18, to at 14, line 16, of Applicants’ specification, describes a smooth resin composition that has had chunks of unmelted raw material and chunks of thermally deteriorated material removed by a filter (Revised Appeal Brief at 29, lines 5-22). Therefore, “resin filtered after thermal melting” describes a mechanically filtered resin, which squarely describes the resin in terms of its structure (i.e., a filtered resin relatively free of unmelted raw material and thermally degraded regions) and should be given full patentable weight.

For all of the above reasons, the limitation “resin filtered after thermal melting” is best characterized as a pure product limitation and should be given full patentable weight. Therefore, the Examiner erred by not giving it full patentable weight. Furthermore, neither the Taguchi Patent, the Mannion Patent, the Hoffman Patent nor the Takahashi Patent, teach or suggest, this limitation of claims 44-46. Therefore, the Examiner has failed to establish a prima facie case of obviousness against independent claims 44-46.

4. **The Examiner has Failed to Establish a Proper Motivation to Combine the Taguchi Patent and the Mannion Patent:** Applicants argued that the Mannion Patent is non-analogous art because it pertains to improving transparency of injected molded articles, which is an entirely different field of endeavor than that of the photopolymerizable element of the Taguchi Patent. (Revised Appeal Brief at 18, lines 1-17, and 21, lines 3-14). The Examiner contends that the motivation for modifying the protective film disclosed by the Taguchi Patent with the clarifying agents of the Mannion Patent is “to achieve higher transparency and better coating properties” by eliminating bubbles (“fish eyes”) with the reasonable expectation of achieving a material capable of forming a durable image (Examiner’s Answer at 6, lines 11-15).

The Examiner’s argument fails because neither the Taguchi Patent nor the Mannion Patent identify a need to improve the transparency of the protective film disclosed by Taguchi. Furthermore, Applicants argued that the Mannion Patent is not reasonably pertinent to the problem of reducing “fish eyes” defects because the Mannion Patent pertains to reducing visible “white points” and not to visible and microscopic “fish eyes” defects (Revised Appeal Brief at 18, lines 11-17). As discussed above, it is the Kobayashi Patent, and not the Mannion Patent, the pertains to the prevention of only certain kinds of “fish eyes”

defects. Furthermore, the Kobayashi Patent is non-analogous art because it pertains solely to molded articles (Kobayashi Patent at col. 1, lines 4-8) and to reducing haze (Kobayashi Patent at col. 1, lines 4-8; and Tables 1-3).

In sum, the Mannion Patent is non-analogous art that pertains to the reduction of visible “white points” and not to visible and microscopic “fish eyes,” so there is no reason for a person of ordinary skill in the art to modify the protective film disclosed by Taguchi to include the clarifying agents of Mannion because there is no need to improve the transparency of Taguchi’s protective film. Also, a person of ordinary skill in the art would have no reasonable expectation that adding the clarifying agents of Mannion to the protective film of Taguchi would succeed in reducing the number of visible and microscopic “fish eyes” defects because the Mannion Patent discloses a method for reducing “white points” and not “fish eyes” defects. Consequently, the Examiner has failed to establish a prima facie case of obviousness against Applicants’ claimed invention for these additional reasons.

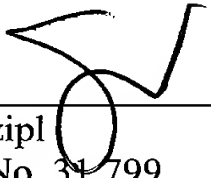
CONCLUSION

The rejection under 35 U.S.C. § 103 of independent claims 1, 19, 36, 38, 42, 43, 44, 45 and 46 of the present application as unpatentable over the combination of the Taguchi Patent, the Mannion Patent, the Hoffman Patent and the Takahashi Patent is plainly untenable and should be withdrawn because none of the prior art references teach, or even suggest, either alone or in combination (i) a “protecting film...wherein...the number of fish eyes having a diameter of at least 80 μm ...does not exceed 5 fish eyes/ m^2 when measured under a microscope at a multiplication of 100” as recited in independent claims 1, 36, 38, 42 and 44-46 and “a protecting film...wherein the protecting film has fish eyes of a diameter of at least 80 μm in a number not exceeding 5 per square meter when measured under a microscope at a multiplication of 100” as recited by independent claims 19 and 43; (ii) the Examiner erred by not giving patentable weight to the limitation “when measured under a microscope at a multiplication of 100” as recited in claims 1, 19, 36, 38, 42, 43, 44, 45 and 46; (iii) the Examiner erred by not giving full patentable weight to the limitation “resin filtered after thermal melting” as recited in claims 44-46; and (iv) the Examiner has failed to establish a proper motivation, and reasonable expectation of success, to justify the combination of the Taguchi Patent and the Mannion Patent because the Mannion Patent is non-analogous art directed to the reduction of large, visible “white points” and not to the reduction of small “fish eyes” including microscopic “fish eyes” that can only be viewed under magnification of a microscope as recited by Applicants’ independent claims.

For all of the above reasons, the Examiner's rejections should be reversed by the Board,
and the appealed claims allowed.

Respectfully submitted,

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